

Zero-Baseline Review of Security Protection Measures and Technology Demonstration at Idaho National Laboratory

For the Department of Energy and the Nation, the 21st century opened with the shock of 9/11 and the continuing threat from terrorists around the world. Since then, it has become increasingly clear that the Department's security challenges will be difficult to fully surmount without a fundamental rethinking of our approach to site security through the utilization of technology. The Office of Security and Safety Performance Assurance (SSA), in partnership with the National Nuclear Security Administration and the Office of Energy, Science and Environment, continue to pursue a dynamic management approach to meet future

The integration of site mission, operations, security technologies, and an elite protective force can serve as a force multiplier to provide more robust security protection measures at a lower overall cost.

security challenges. We are striving for a more secure Department and a more secure Nation, while reducing the cost impact on Departmental missions and programs. By deploying security technologies that are effectively integrated into the mission and the operations of the site, we can minimize overall security costs; provide additional response time to meet and defeat the adversary; reduce protective force casualties; and improve the effectiveness of protection systems to meet the threats of the future.

Working closely with the Office of Nuclear Energy (NE), the Idaho Operations Office (ID), and the Idaho National Laboratory (INL), SSA is planning an integrated evaluation of longstanding safeguards and security programs and requirements relative to the modern-day threat environment and the Department's dynamic programmatic missions. Over the course of the next six months, SSA will team with NE,

ID, and INL to integrate advanced security technologies into a safeguards and security system with improved protection strategies that can demonstrate quantifiable cost efficiencies.

Given the nature of their mission and their strong endorsement of this initiative, INL was selected as the test-bed for this effort. A zero-baseline review will examine how security can best interface with safety and facility operations to optimize the effectiveness of deployed technologies and identify the elements that directly contribute to security system effectiveness. Further, our efforts will compile and analyze data that can be used as a basis for modifying Departmental protection system configurations and security policy. We will conduct analyses and provide options that are responsive to cost-effective safeguards and security programs and that are based on a common-sense, risk management approach. The lessons learned, including demonstrated progress toward safety and security coexistence, and our path forward will be shared so that the Department may benefit as a community.

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The motion-activated RDTS is used to detect and assess threats at long distances (up to 10 km for vehicles).

Technology Demonstration

The partners in this effort—NE, ID, INL, and SSA—firmly believe that the effective integration of security technology is necessary to meet today's and tomorrow's security threat. To emphasize this point, a technology demonstration will be conducted at INL during the week of July 10. The demonstration will be open to DOE Program and Field Element senior managers, the DOE security community, and other interested stakeholders. This demonstration will show that the deployment of technologies, com-

Conduct a zero-baseline review of security protection measures to optimize the protection afforded to the assets.

plemented with modifications to protective force tactics, can improve protective force survivability and serve as force multipliers. The demonstration will focus on the use of technology and how it can improve the Department's security posture in a safe, efficient, and cost-effective manner. A significant aspect of this demonstration and of the zero-baseline review is to integrate cross-cutting activities, such as safety, security, and operations, to develop effective security solutions.

Approach and Objectives

A zero-baseline review of the site security program can serve as a basis for optimizing the effectiveness of safeguards and security protection measures. To demonstrate the feasibility of this zero-baseline approach, a real-world application was needed. The nature of INL's mission and INL's strong endorsement led to its selection as the test site for this effort. This evaluation will include a fresh look at the fundamental assumptions that were used in the past to design and implement a security strategy. This evaluation will not simply add more or different security requirements or increase the number of security measures. Instead, this zero-

baseline review will examine future site missions and facility operations, and the assets requiring protection. In addition, the review will focus on the integration of technology, protective force capabilities and tactics, and security policy.



Weapon-mounted system.

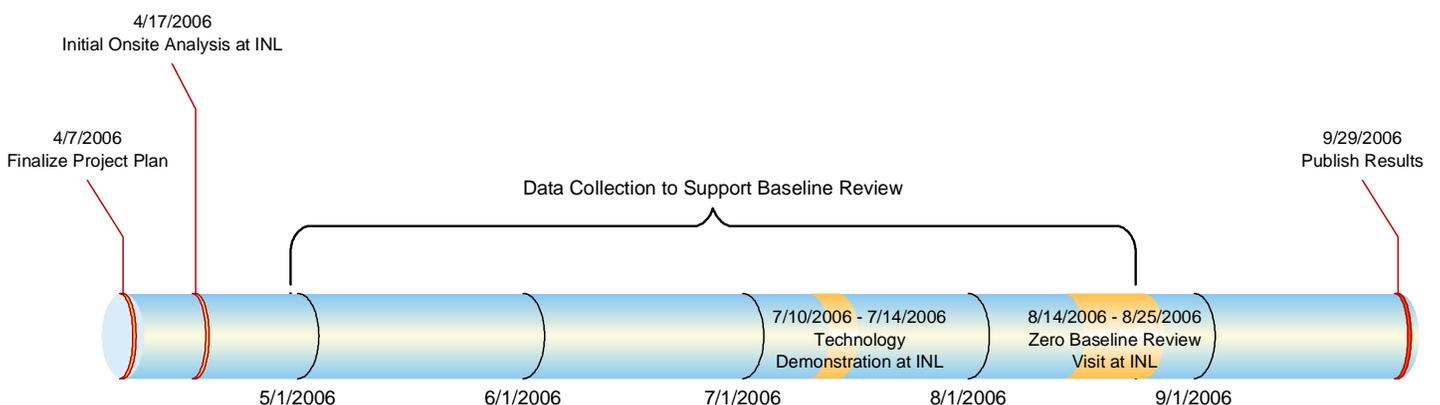
Identification, Friend or Foe (IFF) Systems distinguish between adversaries and friendly forces by using invisible light and optical tags.

Using a zero-baseline approach, the objectives of this initiative include:

- Identifying the appropriate protection that should be afforded the assets
- Demonstrating specific technologies to illustrate their overall effectiveness
- Assessing potential contributions of technology to system effectiveness
- Identifying contributing and non-contributing security requirements and practices that impact overall system effectiveness



The Sentinel II Explosives Detection Personnel Portal provides non-invasive explosives screening at a rate of seven people per minute.



TIMELINE

4/7/2006

9/29/2006

Inside SSA

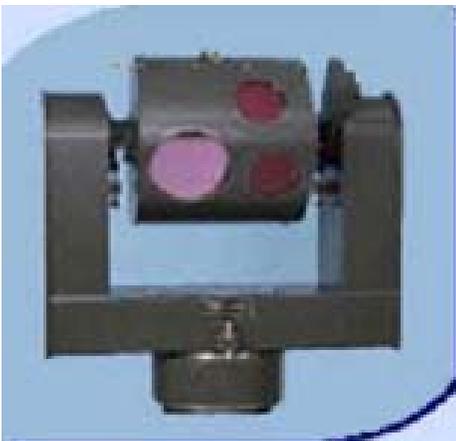


The Advanced Concept Armored Vehicle (ACAV) II with a remotely operated M-240 serves as a force multiplier and enhances survivability.

- Recommending operational changes and protection strategies that minimize costs and maximize system effectiveness
- Recommending an integration of all disciplines into an enhanced safeguards and security protection plan
- Recommending policy changes, if warranted.

Collectively, these objectives will identify those protection elements that directly contribute to system effectiveness and those that do not.

The process for accomplishing this effort has already begun. A project plan is in the final stages of development, with plans to be on the ground at INL in April for an initial onsite analysis. A multi-



The SPIDER is a motion-stabilized, real-time, automated, electro-optical detection system that rotates to detect multiple targets and then zero in on individual targets.

disciplined team with subject matter experts from NE, ID, INL, and SSA will conduct a baseline review and analysis of security operations and practices for the various assets. Assets will be identified and evaluated according to composition, location, and function, using applicable bounding scenarios and operational criteria.

Based on the analysis, an enhanced security posture employing advanced technologies and best business practices will be recommended. This ensures a risk management approach for acceptable security while permitting operations to continue in support of Departmental initiatives and goals.

Once the assets are identified, the team will identify all the programs, operations, and missions that are tied to the assets. The review will examine both current and projected activities (near-term, mid-term, and long-term). The team will identify the current protection programs, program drivers, policies, procedures, and requirements. The focus of this integrated, multi-disciplined process is to identify the basis of the protection afforded to assets, rather than simple compliance with policies that may not offer the best contribution to overall protection system effectiveness.

The team will analyze the security operations and practices by leveraging the full resources within SSA, NE, ID, and INL. The capabilities provided by these resources include tabletop assessments, performance testing, and cost-benefit analyses. The Performance Test and Analysis Center (PTAC) will perform “red team” analyses and other analytic functions. The analysis will include assessing and determining the appropriate protection(s) that should be afforded to the assets, operations, and/or missions. A crosswalk will be

conducted of the current protection practices with appropriate protection practices.

From this analysis, the team will then identify and recommend potential changes in programs and policy. Based on the conclusions and recommendations of this zero-baseline review, an enhanced security posture employing the optimal security technologies and best



MILES GPS is an extension of standard MILES gear (shown above) and will allow the protective and aggressor forces to be tracked during the demonstration.

business practices will be recommended. This will ensure a risk management approach for acceptable security that complements site missions and operations in support of Departmental initiatives and goals.

Outcome

The goal of this effort is to show that a zero-baseline review approach can be used as a model at other locations within the Department to redesign their security program to meet today’s threat and be flexible enough to meet tomorrow’s challenges. This effort will demonstrate how deployed technology will help us minimize costs; reduce protective force casualties; and improve the effectiveness of protection systems. Lessons learned will also include how to enhance the integration of security with operational and safety needs to meet site mission requirements while reducing cost impact on Departmental programs. ■



Unmanned aerial vehicles (UAVs) can be flown 24/7 or on demand, and can carry a variety of payloads, including video cameras that can be directed at suspect targets on the ground. Planes can autonomously patrol on a programmed route and remain on site for more than ten hours. They are capable of flying in winds in excess of 30 mph.



The lightweight PSRS is a millimeter wave radar detection system that scans out to approximately 300 meters and 360 degrees at a speed of up to one rotation per second to provide all-weather perimeter detection.

	Solicitation of Comments, Questions, and Suggestions
	<p>SSA welcomes your thoughts about our newsletter. Please send or phone comments, questions, or suggestions to:</p> <p>Glenn S. Podonsky, Director Office of Security and Safety Performance Assurance U.S. Department of Energy 1000 Independence Avenue, SW Washington, DC 20585-1290 301-903-3777</p> <p style="text-align: right;">e-mail: Glenn.Podonsky@hq.doe.gov</p> <p style="text-align: right;">This newsletter can be found on the SSA web site at http://www.ssa.doe.gov</p>